

CALIBRATING A FREQUENCY DIFFERENCE BETWEEN TWO OR MORE LASERS OVER AN EXTENDED FREQUENCY RANGE

ABSTRACT OF THE DISCLOSURE

Methods and apparatus for calibrating a frequency difference between two or more lasers over an
5 extended frequency range as well as optical signal generators that employ such an apparatus or
method are disclosed. The lasers are tuned in coordination with respect to one or more readily
characterized narrow frequency ranges to characterize one or more tuning parameters of each of
the lasers over the extended frequency range. The apparatus may include first and second tuning
10 controllers respectively coupled to the first and second lasers, an optical coupler optically
coupled to the first laser and the second laser, a frequency detector coupled to the optical coupler
and a controller coupled to the frequency detector and the temperature controllers. The
controller may include a processor and a memory containing processor executable instructions
for calibrating the two lasers in accordance with the method described above. Such a frequency
calibration apparatus may be incorporated with the lasers into a signal generator apparatus.